

ORIGINAL



0000077534

ROSHKA DeWULF & PATTEN

ROSHKA DEWULF & PATTEN, PLC  
ATTORNEYS AT LAW  
ONE ARIZONA CENTER  
400 EAST VAN BUREN STREET  
SUITE 800  
PHOENIX, ARIZONA 85004  
TELEPHONE NO 602-256-6100  
FACSIMILE 602-256-6800

RECEIVED

2007 OCT -5 P 1:49

AZ CORP COMMISSION  
DOCKET CONTROL

October 4, 2007

*Via hand delivery*

Ms. Blessing N. Chukwu  
Executive Consultant III  
Utilities Division  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Arizona Corporation Commission  
**DOCKETED**

OCT 05 2007

DOCKETED BY	<i>mn</i>
-------------	-----------

Re: **Response to Insufficiency Letter**  
Water Utility of Greater Tonopah CC&N Extension  
Docket No. W-02450A-07-0290

Dear Ms. Chukwu:

Attached, please find Water Utility of Greater Tonopah's Response to your Insufficiency Letter dated September 6, 2007. Please let me know if you have any questions.

Very truly yours,

Timothy J. Sabo

TJS:da  
Enclosures

cc: Docket Control  
Katrin Stukov  
Lyn Farmer, Chief Administrative Law Judge  
Christopher C. Kempley, Chief Counsel  
Mr. Graham Symmonds, Global Water Management

**WATER UTILITY OF GREATER TONOPAH'S  
RESPONSES TO STAFF'S INSUFFICIENCY  
LETTER DATED SEPTEMBER 6, 2007  
DOCKET NO.: W-02450A-07-0290**

1. The map provided in response to item #4 of Staff's June 11, 2007 Insufficiency letter is not legible and user friendly. Please provide **sectional maps** that identify the location of the 73 service connections outside the Company's CC&N area. For each of the 49 properties identified in Exhibit 7, the Company can be use dot to identify the locations of the service connections. It is not necessary to identify the customers by name.

**Response:** Please see the attached revised exhibits.

**Respondent:** Graham S. Symmonds, Senior Vice President and Chief Technical Officer

**WATER UTILITY OF GREATER TONOPAH'S  
RESPONSES TO STAFF'S INSUFFICIENCY  
LETTER DATED SEPTEMBER 6, 2007  
DOCKET NO.: W-02450A-07-0290**

2. EXHIBIT 5 (Docket No.07-0290) indicates WUGT's CC&N area is 44,216 acres. However, the DSWA Report submitted on December 26, 2006 (Docket No.06-0626) indicates 39,000 acres. Please verify the size of the WUGT's current CC&N.

**Response:**

The WUGT CC&N area covers approximately 42,815 acres

The discrepancies are related to the data sets employed in generating the area. CAD, GIS and manual mapping each have their limitations – particularly in older areas where the data set relies on hand-drawn maps. The WUGT CC&N is being digitized into Global's GIS system which will provide the most accurate reflection of the area.

The 6-20-07 DSWA Water Master Plan cites 39,000 acres – the difference being that outlying portions of the CC&N in the far west were not included in the master plan. This is because it is not anticipated that these areas would be served by the regional system under consideration.

A revised exhibit from the August 9, 2007 insufficiency response is attached that shows the recalculated acreage.

**Respondent:** Graham S. Symmonds, Senior Vice President and Chief Technical Officer

**WATER UTILITY OF GREATER TONOPAH'S  
RESPONSES TO STAFF'S INSUFFICIENCY  
LETTER DATED SEPTEMBER 6, 2007  
DOCKET NO.: W-02450A-07-0290**

3. With regards to the water main extension needed for the Franecki property, please provide and/or explain the following:
- a) Detailed description and the costs;
  - b) Approval To Construct ("ATC") /Approval of Construction ("AOC")

**Response:** There is no line extension agreement with Mr. Franecki per an April 29, 2007 email between Lynn Combs, ACC and Cindy Liles, Global Water/WUGT. This infrastructure was installed by Franecki at his cost. WUGT has offered to enter into an LXA with Mr. Franecki – he has refused.

**Respondent:** Graham S. Symmonds, Senior Vice President and Chief Technical Officer



**WATER UTILITY OF GREATER TONOPAH'S  
RESPONSES TO STAFF'S INSUFFICIENCY  
LETTER DATED SEPTEMBER 6, 2007  
DOCKET NO.: W-02450A-07-0290**

4. With regards to the new infrastructure needed for the Winters Well School, please provide and/or explain the following:
- a) The rationale for an additional 38,160 gpd water demand;
  - b) ATC/AOC

**Response:**

- (a) Attached please find the Engineering Design Report for the Winters Well School water system which provides the calculations and rationale for the demand. Per page 2, section 1.3, excerpted as follows, the school's demand is 8,100 gpd. The 38,160 gpd figure reported in the original application on page 4, V.17 was in error.

"The school was projected to have 500 students with a demand of 15 gallons per capita per day and 30 faculty with a demand of 20 gallons per capita per day. The total water use is projected to be 8,100 gallons per day for the school. Over an eight-hour day the average demand is projected to be 17 gpm, the maximum day demand 30 gpm, and the peak hour 59 gpm. The school demand will be equivalent to 56 homes. The total average daily demand including the school will be 173,445 gpd or 132 gpm at build out. The maximum day demand will be 238 gpm and the peak hour demand will be 461 gpm. Fire flow plus peak hour demand will be 1,961 gpm. The fire flow required for the school is 1500 gpm for 2 hours. This results in a total fire demand of 180,000 gallons."

- (b) Attached is the ATC for the offsite pipeline which was completed in September of 2006. The construction of the booster pump, hydro tank and storage tank was completed mid-September 2007. WUGT expects to file for AOC by the end of September. The State Fire Marshall's office indicates fire flow tests were conducted and demonstrated sufficient fire flow (1500 GPM at 20 psi).

**Respondent:** Graham S. Symmonds, Senior Vice President and Chief Technical Officer

**WATER UTILITY OF GREATER TONOPAH'S  
RESPONSES TO STAFF'S INSUFFICIENCY  
LETTER DATED SEPTEMBER 6, 2007  
DOCKET NO.: W-02450A-07-0290**

5. With regards to EXHIBIT 10, please verify and/or provide the following:
- a) There are 72 accounts listed in this EXHIBIT, however, 73 service connections are referenced on page 2 of the Application.
  - b) Provide corresponding water system number for each account.

**Response:** Attached please find the account numbers and their corresponding water system number for the 73 service connections requested to be added to the WUGT CC&N in this application.

**Respondent:** Graham S. Symmonds, Senior Vice President and Chief Technical Officer

**WATER UTILITY OF GREATER TONOPAH'S  
RESPONSES TO STAFF'S INSUFFICIENCY  
LETTER DATED SEPTEMBER 6, 2007  
DOCKET NO.: W-02450A-07-0290**

6. With regards to WUGT response to Dixie system's storage deficiency and the proposed 4,000 gallon storage tank, Staff recommends an additional minimum storage capacity of 5,000 gallons instead of 4,000 gallons proposed by the Company. How does the Company plan to resolve the issue?

**Response:**

Storage calculations are based on AAC R18-5-503. The storage capacity required was calculated based on actual peak month usage as follows:

Actual Peak Month Usage, per customer = 304 gpd

Number of Customers: 42

Minimum Storage Required = 12,770 gal

Existing Storage = 10,000 gal

Additional Storage Needed = 3,000 gal

Additional Storage Provided = 5,000 gal (4,000 gal of effective storage at matched water levels)

Total Effective Storage (at matching water levels) = 14,000 gal

A new 15,000 gal welded steel storage tank is planned to be added to the Dixie site within 6 months to provide adequate storage capacity for the projected buildout population of 75 homes.

**Respondent:** Graham S. Symmonds, Senior Vice President and Chief Technical Officer



Current CC&N- 42,815 acres

Properties to be added to CC&N - 222 acres



Water Utility of Greater Tonopah

Buckeye Ranch, B & D, and Dixie Properties to be added to CC&N

Served by B&D/Buckeye Ranch - PWS # 07-618 & Dixie System - PWS #07-030,

May 7, 2007

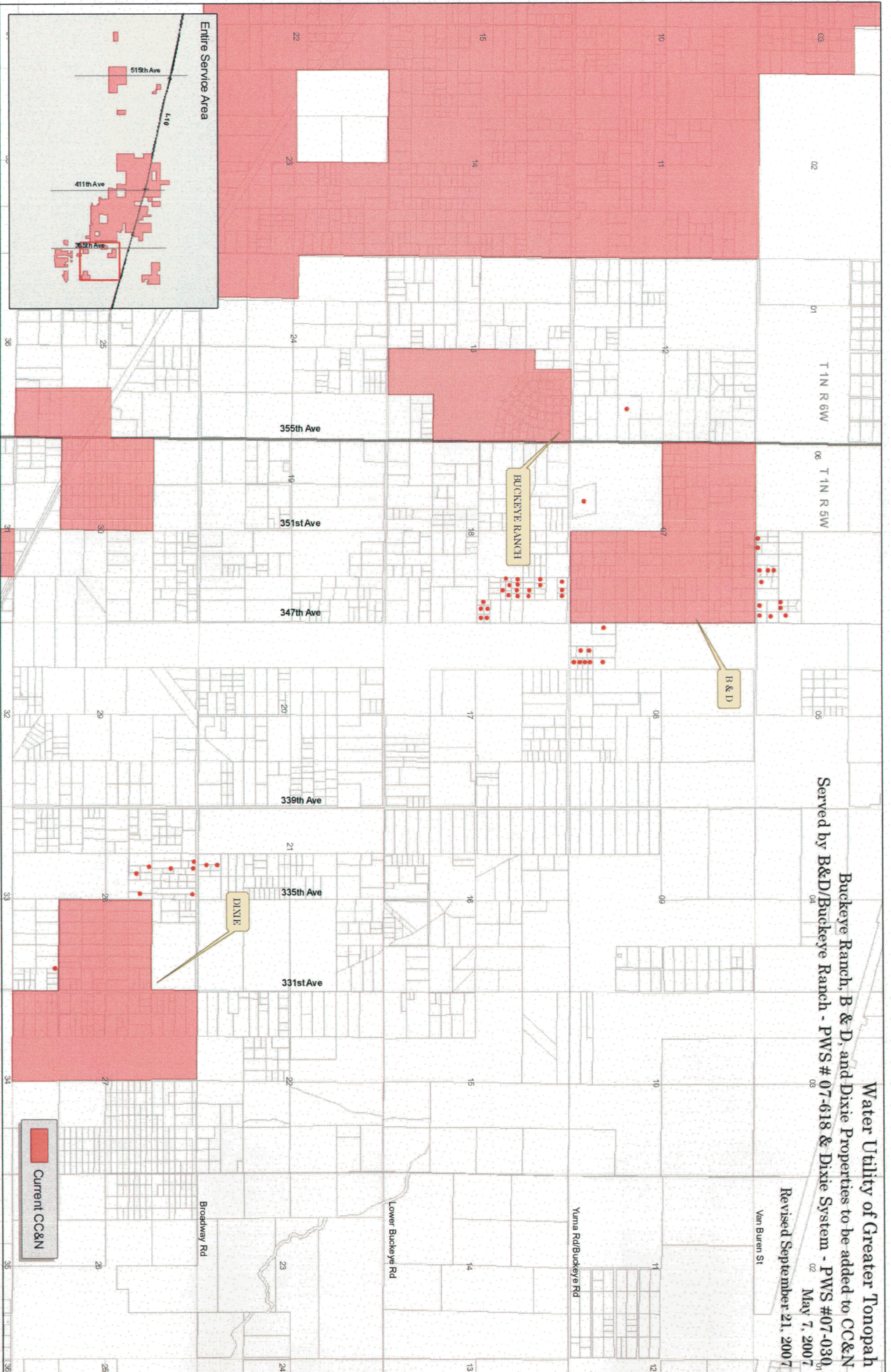
Revised September 21, 2007

Van Buren St

Yuma Rd/Buckeye Rd

Lower Buckeye Rd

Broadway Rd



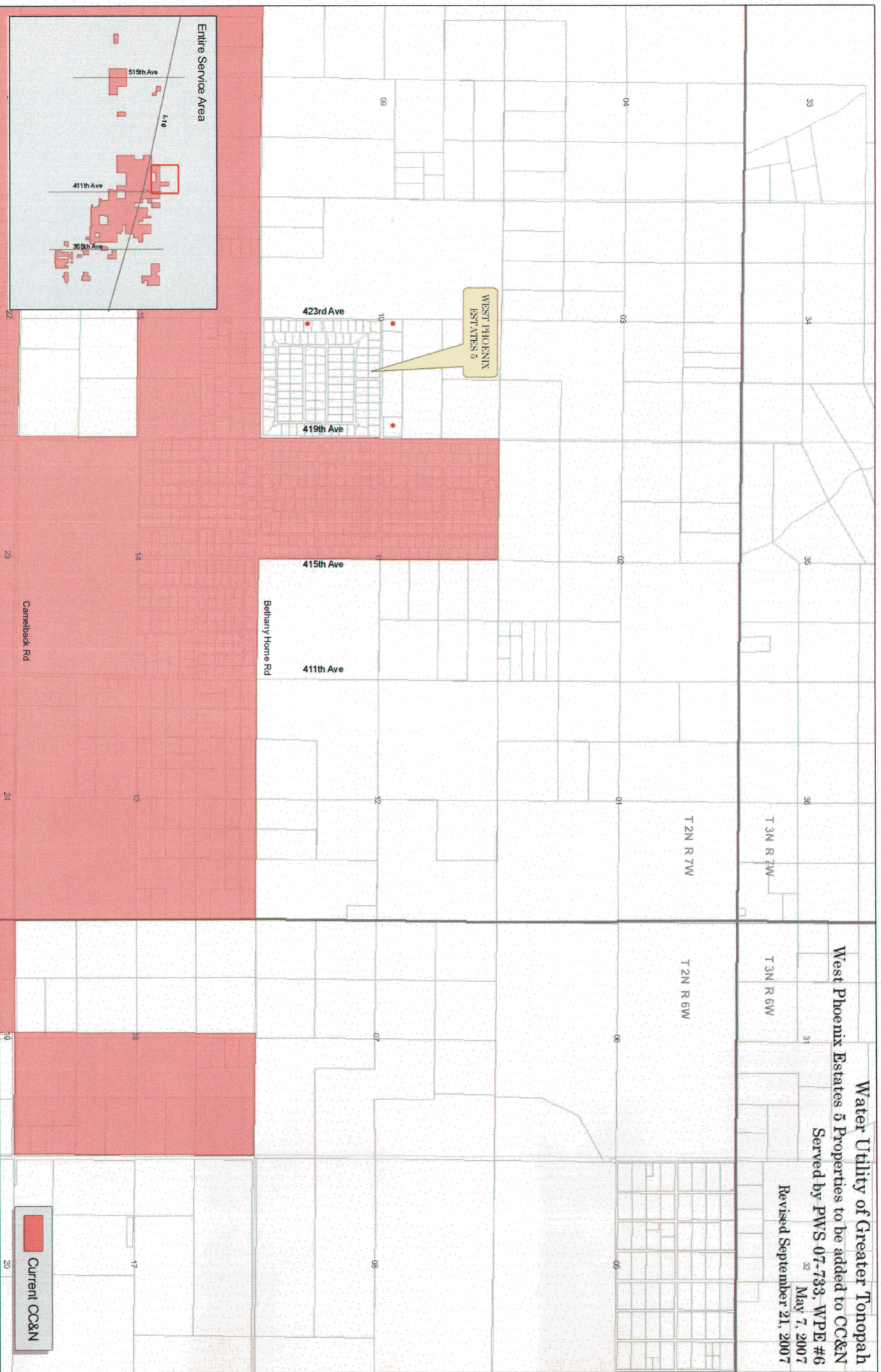


Water Utility of Greater Tonopah

West Phoenix Estates 5 Properties to be added to CC&N

Served by PWS 07-733-WPE #6

Revised September 21, 2007



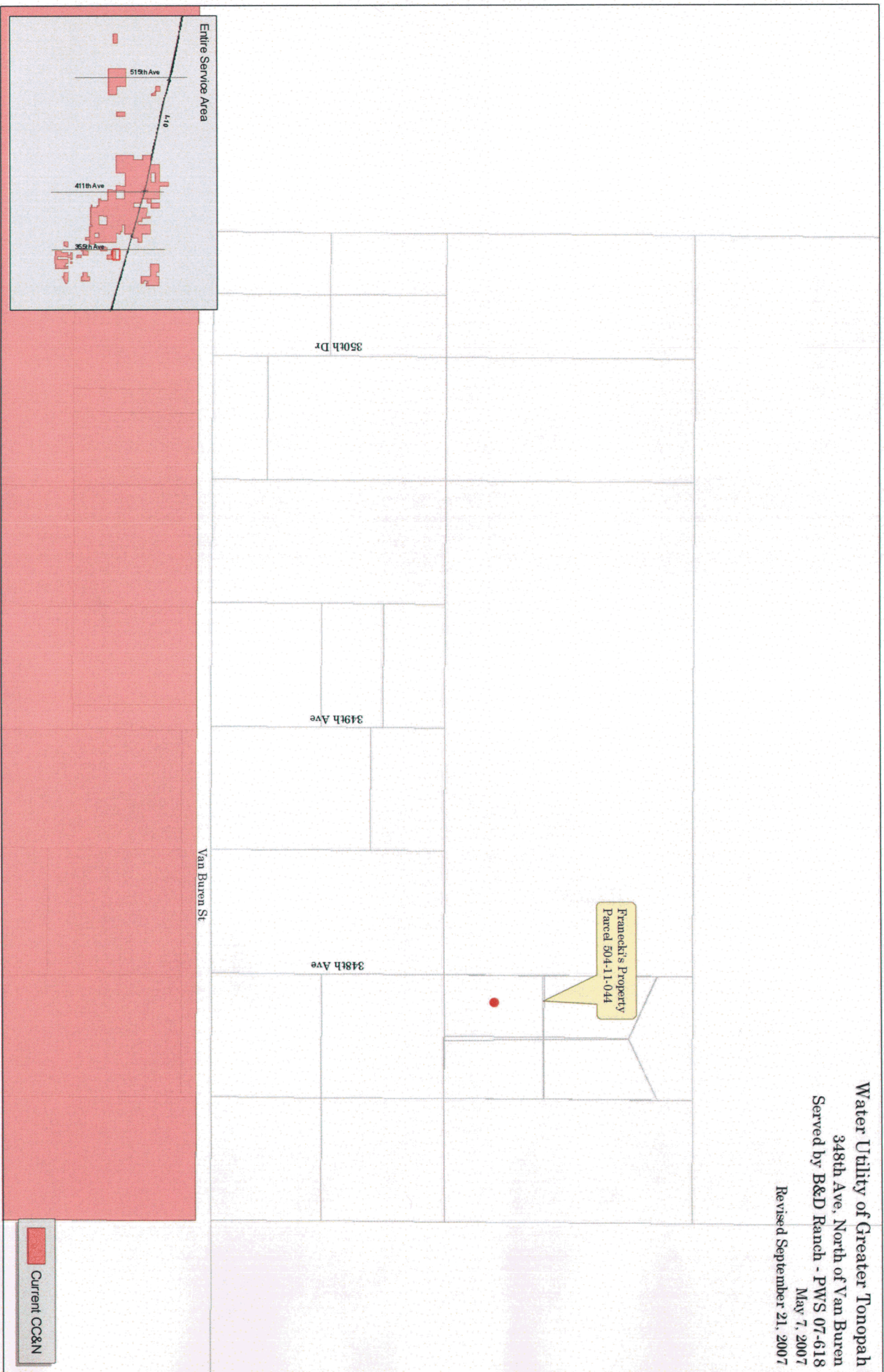


Water Utility of Greater Tonopah

348th Ave, North of Van Buren  
Served by B&D Ranch - PWS 07-618

May 7, 2007

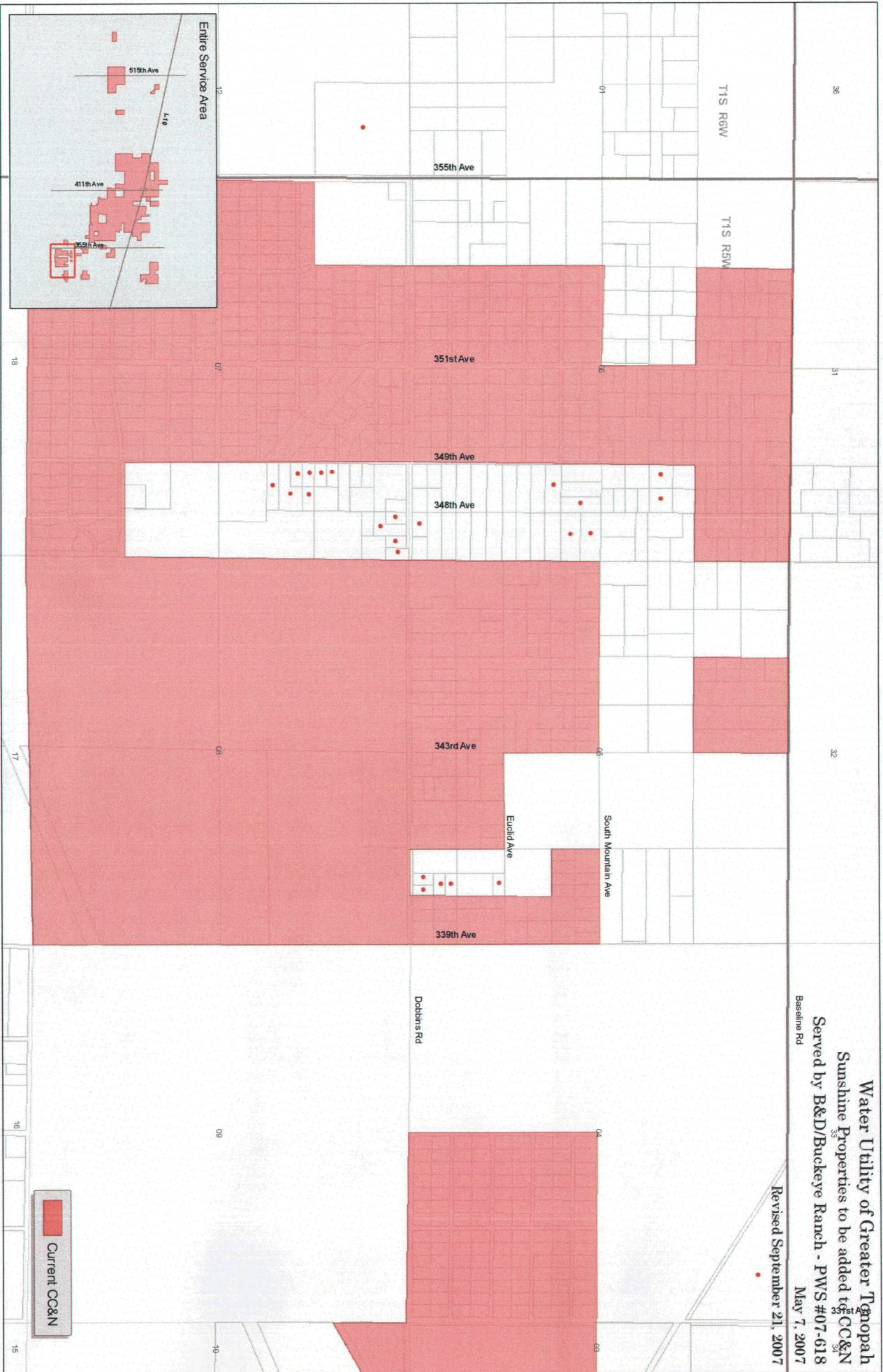
Revised September 21, 2007





Water Utility of Greater Tonopah  
Sunshine Properties to be added to CC&N  
Served by B&D/Buckeye Ranch - PWS #07-618  
May 7, 2007

Revised September 21, 2007





APN	ADDRESS	PWS/number
<b>Accounts to add to WUGT CC&amp;N</b>		
40142027F	34731 W DOBBINS RD	Sunshine/07-037
40142027Q	34747 W DOBBINS RD	Sunshine/07-037
50432196T	4218 S 336TH AVE	Dixie
50411014M	34752 W VAN BUREN ST	Buckeye Ranch/07-618
50412084B	34831 W PAPAGO ST	Buckeye Ranch/07-618
50412088D	34811 W PIMA ST	Buckeye Ranch/07-618
50411014P	311 N 348TH AVE	Buckeye Ranch/07-618
50635019F	6530 N 419TH AVE	WPE #6/07-733
50635019M	6525 N 423RD AVE	WPE #6/07-733
50635382	6139 N 423RD AVE	WPE #6/07-733
40142027R	34711 W DOBBINS RD	Sunshine/07-037
40142701	9797 S 349TH AVE	Sunshine/07-037
40142027T	9797 S 349TH AVE	Sunshine/07-037
40192003	8117 S 349TH AVE	Sunshine/07-037
40192005	8123 S 348TH DR	Sunshine/07-037
40142013J	8409 S 348TH AVE	Sunshine/07-037
40142013N	8509 S 348TH AVE	Sunshine/07-037
40142013Q	8608 S 348TH AVE	Sunshine/07-037
40142703	34812 W CALDWELL ST	Sunshine/07-037
40142976D	8411 S 341ST DR	Sunshine/07-037
40142976E	34008 W DOBBINS RD	Sunshine/07-037
40142976F	34020 W DOBBINS RD	Sunshine/07-037
40142976J	9009 S 340TH DR	Sunshine/07-037
40142977	34750 W DOBBINS RD	Sunshine/07-037
40143019B	9410 S 355TH AVE	Sunshine/07-037
40142027C		Buckeye Ranch/07-618
50432233	4411 S 336TH DR	Dixie/07-030
50412088C	34827 W PIMA ST	Buckeye Ranch/07-618
50412090A	34812 W COCOPAH ST	Buckeye Ranch/07-618
50412090B	34836 W COCOPAH ST	Buckeye Ranch/07-618
50412090C	34844 W COCOPAH ST	Buckeye Ranch/07-618
50412090D	34837 W COCOPAH ST	Buckeye Ranch/07-618
50412090E	34813 W COCOPAH ST	Buckeye Ranch/07-618
50412092C	34749 W HOPI ST	Buckeye Ranch/07-618
50412092D	34737 W HOPI ST	Buckeye Ranch/07-618
50412092E	34717 W HOPI ST	Buckeye Ranch/07-618
50412092F	34726 W DURANGO ST	Buckeye Ranch/07-618
50412092G	34720 W DURANGO ST	Buckeye Ranch/07-618
50412006N	925 S 347TH AVE	Buckeye Ranch/07-618
50412082D	34839 W BUCKEYE RD	Buckeye Ranch/07-618
50412082E	34815 W BUCKEYE RD	Buckeye Ranch/07-618
50412082F	34811 W BUCKEYE RD	Buckeye Ranch/07-618
50412084A	34843 W PAPAGO ST	Buckeye Ranch/07-618
50412085D	34812 W PIMA ST	Buckeye Ranch/07-618
50412088A	34819 W PIMA ST	Buckeye Ranch/07-618
50412088B	34835 W PIMA ST	Buckeye Ranch/07-618
50432006L	4314 S 336TH AVE	Dixie/07-030
50432006P	4218 S 336TH AVE	Dixie/07-030
50432196C	4411 S 335TH DR	Dixie/07-030
50411011F	406 N 349TH AVE	Buckeye Ranch/07-618
50411011G	34912 W VAN BUREN ST	Buckeye Ranch/07-618
50411011H	410 N 349TH AVE	Buckeye Ranch/07-618
50411014U	406 N 347TH AVE	Buckeye Ranch/07-618
50411014V	34712 W VAN BUREN ST	Buckeye Ranch/07-618
50411014Z	307 N 350TH DR	Buckeye Ranch/07-618
50432042W	33143 W SUNLAND AVE	Dixie/07-030
50641215E		Buckeye Ranch
50412006X	1029 S 345TH AVE	Buckeye Ranch
40142704B	9617 S 349TH AVE	Sunshine/07-037
40142704A	9603 S 349TH AVE	Sunshine/07-037
50412006V	1007 S 345TH AVE	Buckeye Ranch/07-618
50412006W	1015 S 345TH AVE	Buckeye Ranch/07-618
50412006Y	34514 W BUCKEYE RD	Buckeye Ranch/07-618
50411044	34726 W VAN BUREN ST (Franecki)	Buckeye Ranch/07-618
50432195A	4618 S 336TH AVE	Dixie/07-030
50432044T	33608 W MOBILE LN	Dixie/07-030
50432044N	33617 W WEIR AVE	Dixie/07-030
50432044W	4814 S 335TH AVE	Dixie/07-030
Winters Well School	355th Ave and Buckeye Rd	Buckeye Ranch/07-618
<b>Inactive Accounts to be Added to CC&amp;N*</b>		
50412006F	34516 W BUCKEYE RD	Buckeye Ranch/07-618
40142619A	33101 W BASELINE RD	Sunshine/07-037
50411011K	34848 W VAN BUREN ST	Buckeye Ranch/07-618
50412006K	1024 S 345TH DR	Buckeye Ranch/07-618

\*Have meter but have not received service past 12 mos.



Approval Date:

4/25/06

MCESD Project: No. 061660  
PWS SYSTEM No. 0407618

**CERTIFICATE OF APPROVAL TO CONSTRUCT  
(WITH STIPULATIONS)  
PUBLIC WATER SYSTEM EXTENSION**

**PROJECT DESCRIPTION:** Winters Well Elementary School Waterline (Offsite)- potable water distribution system of approximately 2380 linear feet and associated appurtenances with a point of connection to the Water Utility of Greater Tonopah-B&D water system.

**LOCATION:** Town of Tonopah, Maricopa County  
Section 13, 18, T1N, R5-6W

**PROJECT OWNER:** J. John Mihlik Owner  
Water Utility of Greater Tonopah  
201 E. Coronado  
Buckeye, AZ 85326

Pursuant to Arizona Administrative Code (AAC) Title 18: Chapters 4 and 5 and the Maricopa County Environmental Health Code: Chapters IV and V.

Approval to construct the above described facilities as represented in the approved plan documents on file with the Maricopa County Environmental Services Department is hereby given subject to the following stipulations: **NONE**

Operation of this public water system project shall not begin until an Approval of Construction is issued by Maricopa County Environmental Services Department.

**WATER AND WASTE MANAGEMENT DIVISION**

BY T. S. Chieff

**Subdivision Infrastructure & Planning Program**

*From the approval date noted above this certificate will expire if construction has not commenced within one year, there is a halt in construction of more than one year or construction is not completed within three years.*

# INSPECTION REPORT

Ph.602.364.1003 Fx. 602.364.1084

INSPECTION DATE: <u>SEPT 7, 2007</u>		AZOFM Form 526 A Rev. 05/06		Deputy State Fire Marshal II	
OFM FACILITY ID:		REVIEWED:		1110 W. Washington Ste. 100	
OFM BUILDING ID:		DEPUTY #:		Phoenix, Arizona 85007-2935	
FACILITY NAME: <u>WINTERS WELL ELEMENTARY</u>				Ph.602.364.1003 Fx. 602.364.1084	
FACILITY ADDRESS: <u>35220 W. BUICK RD</u>				Signed: <u>R. R. R.</u>	
FACILITY CITY: <u>TONOPAH</u>		COUNTY: <u>MARICOPA</u>		PERMIT #:	
CONTACT PERSON: <u>G.R. COLLINS</u>		PHONE: <u>602-319-6635</u>		INSPECTION TIME: <u>2 1/2</u> TRAVEL TIME: <u>2 1/2</u>	
BUILDING NAME:				TAG: <input type="checkbox"/> GREEN <input type="checkbox"/> RED <input type="checkbox"/> YELLOW	
FACILITY OWNER: <u>SADDLE MOUNTAIN UNIFIED</u>				OCCUPANCY CLASSIFICATION:	
Inspected Fire Systems: <input type="checkbox"/> Fire Sprinklers <input type="checkbox"/> Fire alarms <input type="checkbox"/> Hood Extinguishing				TYPE OF INSPECTION: <input type="checkbox"/> Scheduled	
ADEQ Underground Tank Inspection: <input type="checkbox"/> Install <input type="checkbox"/> Removal		IMMEDIATE ACTION REQUIRED: <input type="checkbox"/>		<input type="checkbox"/> Licensing <input type="checkbox"/> Complaint	
				<input type="checkbox"/> Construction <input type="checkbox"/> DHS / DES / Other	

#	OFM Bldg #	Violation Description	CORRECTION REQUIRED BY THIS DATE:	Initial and Date When Corrected
		FRONT HYDRANT TO BE TURNED SO THAT 4 1/2" PUMPER CONNECTION FACES DRIVEWAY.		
		CONDUCTED FLOW TEST, & FLUSHED <sup>ONE</sup> HYDRANT. CALCULATED FLOW @ 1700 @ 20 PSI.		
		RP BACKFLOW STICK OPEN WHEN HYDRANT FLUSHED. REPAIR BACKFLOW & RESCHEDULE FLUSH OF REAR HYDRANT.		

The items noted above, unless otherwise stated, are in violation of the Arizona State Fire Code, A.A.C. R4-34-1101 adopted pursuant to A.R.S. 41-2146). This is an official notice of violation requiring correction. Failure to comply with these requirements may lead to legal action (A.R.S. 41-2163A). This inspection is for your safety and the safety of the citizens of Arizona. Your cooperation is appreciated.

**Please return a dated & initialed copy of this report to the Inspector upon correction of the violations.**

Report Received by: AK Gell

Date: 9/7/07 Page \_\_\_ of \_\_\_

ENVIRONMENTAL SERVICES  
DEPARTMENT  
1001 N. Central, Ste 150  
Phoenix, AZ 85004-1940



Division of Water and Waste Management  
Subdivision Infrastructure & Planning Program  
(602) 506-6675  
FAX (602) 506-5813  
(TTN) (602) 506-6704

Approval Date: 6/19/06

MCESD Project: No. 062554  
PWS SYSTEM No. 0407618

**CERTIFICATE OF APPROVAL TO CONSTRUCT  
(WITH STIPULATIONS)  
BOOSTER STATION**

**PROJECT DESCRIPTION:** ~~Buckeye Ranch New tank Booster for Winters Well School~~ -  
potable water booster facility with a point of connection to the Water Utility of Greater  
Tonopah-B & D Water System water system.

**LOCATION:** Maricopa County  
Section 18, T1N, R6W

**PROJECT OWNER:** J. John Mhlik, President  
Water Utilities Of Greater Tonopah  
201 E. Coronado  
Buckeye, AZ 85326

Pursuant to Arizona Administrative Code (AAC) Title 18: Chapters 4 and 5 and the Maricopa  
County Environmental Health Code: Chapters IV and V.

Approval to construct the above described facilities as represented in the approved plan  
documents on file with the Maricopa County Environmental Services Department is hereby  
given subject to the following stipulations: **NONE**

Operation of this public water system project shall not begin until an Approval of Construction  
is issued by Maricopa County Environmental Services Department.

**WATER AND WASTE MANAGEMENT DIVISION**

By T. S. Chisholm

**Subdivision Infrastructure & Planning Program**

*From the approval date noted above this certificate will expire if construction has not commenced within one  
year, there is a halt in construction of more than one year or construction is not completed within three years.*

ENVIRONMENTAL SERVICES  
DEPARTMENT  
1001 N. Central, Ste 150  
Phoenix, AZ 85004-1940



Division of Water and Waste Management  
Subdivision Infrastructure & Planning Program  
(602) 506-6875  
FAX (602) 506-5813  
(TTN) (602) 506-6704

Approval Date: 6/19/06

MCESD Project: No.062555  
PWS SYSTEM No. 0407618

## CERTIFICATE OF APPROVAL TO CONSTRUCT (WITH STIPULATIONS) STORAGE TANK

**PROJECT DESCRIPTION:** ~~Buckeye Ranch New tank Booster for Winters Well School~~ -  
potable water storage tank with a point of connection to Water Utility of Greater Tonopah B &  
D water system.

**LOCATION:** Maricopa County  
Section 18, T1N, R6W

**PROJECT OWNER:** J. John Mihlik, President  
Water Utilities Of Greater Tonopah  
201 E. Coronado  
Buckeye, AZ 85326

Pursuant to Arizona Administrative Code (AAC) Title 18: Chapters 4 and 5 and the Maricopa  
County Environmental Health Code: Chapters IV and V.

Approval to construct the above described facilities as represented in the approved plan  
documents on file with the Maricopa County Environmental Services Department is hereby  
given subject to the following stipulations: **NONE**

Operation of this public water system project shall not begin until an Approval of Construction  
is issued by Maricopa County Environmental Services Department.

**WATER AND WASTE MANAGEMENT DIVISION**

By T. S. Chisholm

**Subdivision Infrastructure & Planning Program**

*From the approval date noted above this certificate will expire if construction has not commenced within one  
year, there is a halt in construction of more than one year or construction is not completed within three years.*

ENVIRONMENTAL SERVICES  
DEPARTMENT  
1001 N. Central, Ste 160  
Phoenix, AZ 85004-1940



Division of Water and Waste Management  
Subdivision Infrastructure & Planning Program  
(602) 506-6875  
FAX (602) 506-5813  
(TTN) (602) 506-6704

Approval Date:

6/19/06

MCESD Project: No. 062558  
PWS SYSTEM No. 0407618

**CERTIFICATE OF APPROVAL TO CONSTRUCT  
(WITH STIPULATIONS)  
HYDROPNEUMATIC TANK**

**PROJECT DESCRIPTION:** ~~Buckeye Ranch New tank, Booster for Winters Well School~~ A  
10,000 gallon steel, potable water hydropneumatic tank will be constructed

**LOCATION:** Maricopa County  
Section 18, T1N, R6W

**PROJECT OWNER:** J. John Mihlilk, President  
Water Utilities Of Greater Tonopah  
201 E. Coronado  
Buckeye, AZ 85326

Pursuant to Arizona Administrative Code (AAC) Title 18: Chapters 4 and 5 and the Maricopa County Environmental Health Code: Chapters IV and V.

Approval to construct the above described facilities as represented in the approved plan documents on file with the Maricopa County Environmental Services Department is hereby given subject to the following stipulations: **NONE**

Operation of this public water system project shall not begin until an Approval of Construction is issued by Maricopa County Environmental Services Department.

**WATER AND WASTE MANAGEMENT DIVISION**

By T. S. Chihl

**Subdivision Infrastructure & Planning Program**

*From the approval date noted above this certificate will expire if construction has not commenced within one year, there is a halt in construction of more than one year or construction is not completed within three years.*

***Winters Well Elementary  
School  
Offsite Water Design Report***

***Prepared for:***

***Water Utility of Greater Tonopah  
201 E. Coronado  
Buckeye, AZ 85***

***On Behalf of:***

***Saddle Mountain School District***

***Prepared by:***



***1121 East Missouri Avenue, Suite 100, Phoenix, Arizona 85014***

***February 2006***

# Winters Well Elementary School

## Offsite Water Design Report

Prepared For:  
Water Utility of Greater Tonopah

On Behalf of:  
Saddle Mountain School District



February 2006

### ***Fluid Solutions***

***Water, Wastewater, Engineering and Environmental Services***

1121 E. Missouri Avenue, Suite 100, Phoenix, Arizona 85014  
Phone (602) 274-6725 Fax (602) 274-6773



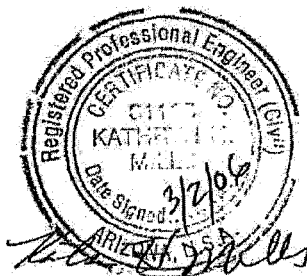
*Winters Well Elementary School  
Offsite Water Design Report*

**TABLE OF CONTENTS**

Section	Page
1.0 BACKGROUND.....	1
1.2 EXISTING SYSTEM.....	1
1.3 SCHOOL PROJECTED WATER DEMAND .....	2
1.4 WATER SUPPLY .....	2
RECOMMENDATIONS.....	3

Appendices

- Appendix A – Existing System Data
- Appendix B – Water Demand and Storage Calculations
- Appendix C – Detailed Cost Estimate



*Winters Well Elementary School  
Offsite Water Design Report*

**Winters Well Elementary School  
Offsite Water Design Report**

**1.0 Background**

This report has been prepared for reviewing the options and designing the off-site improvements required to provide adequate water to the new elementary school in Tonopah. The school site is located in Section 13 of Township 1 North, Range 6 West on the north side of Buckeye Road approximately 1500 feet east of 355<sup>th</sup> Avenue. The Water Utility of Greater Tonopah has an existing water system with a 6-inch pipe that runs along 355<sup>th</sup> Avenue from the Buckeye Ranch well and tank site located on the southwest corner of 355<sup>th</sup> Avenue and Buckeye Road. The location of the project is shown in Figure 1. This report considers water supply, storage, booster pumps, and pipe required to provide fire flow and peak day demands to the school.

**1.2 Existing System**

The tank and well site consists of the following:

- 150,000 gallon storage tank – the as-built plans show it has a diameter of 32 feet and a height of 24 feet.
- Well 55-802962 – well records from ADWR show it was drilled in 1955 to a depth of 962 feet with a 16-inch casing. When it was drilled, it was tested to provide 750 gpm and the water level was 65 feet below the surface. The records are included in Appendix A. In 1997 the water level was shown on the construction plans to be at 78 feet below the surface. The pumping level was shown to be at 100 feet below the surface and the well pump is set at 150 feet below the surface and has a 4-inch diameter well casing pipe. The as-built plans show it is a Goulds 5CLC 4-stage pump, 15 HP, 3.25" impeller. This pump can provide 150 gpm based on the operating water level of 100 feet. The water from the well meets the requirements of the Safe Drinking Water Act at its current pumping rate. Nitrate is at 5 mg/l and Arsenic at 0.013 mg/l. It is not known if increasing the pumping rate will change the quality of the water pulled from the aquifer.
- Booster pumps – There are three existing pumps at the tank site. Two pumps are Berkeley End suction type B11/2 TPLS, 5-3/4" diameter impeller, 5 HP, 100 gpm capacity. The third pump is a 40 HP pump with capacity of 800 gpm.
- Hydropneumatic Tank – the existing tank is 3,000 gallons.
- Generator – The emergency generator is sized for 80 Kilowatts.

The existing tank and well site is sized to serve the Buckeye Ranch subdivision with a total of 205 homes. Water use records show the average daily demand as 9100 gpm for Buckeye Ranch and 12,800 gpd for B&D, a second are that is connected to the Buckeye

*Winters Well Elementary School  
Offsite Water Design Report*

Ranch system. The total average daily demand is 21,900 gpm or 15 gpm. The utility average day demand is assumed to be 150 gallons per capita per day and the density is assumed to be 3.02 people per home. The resulting average day demand for build out of the 205 homes plus 160 homes for B&D is 92,865 gallons or 64 gpm. The maximum day demand, assuming a factor of 1.8 times the average day demand, will be 167,157 gpd or 115 gpm. The peak hour demand, assuming a factor of 3.5 times average day demand, will be 226 gpm at build out. No records show the required fire flow for the system so it is assumed to be 1000 gpm for the subdivision.

The 6-inch pipe that runs along Buckeye Road connects to the distribution system north of Buckeye Road and to the B&D well and tank site. The well can provide 40 gpm to the system, but cannot provide backup for build out. The tank capacity is 5000 gallons. The two booster pumps can provide 40 gpm and 75 gpm.

### **1.3 School Projected Water Demand**

The school was projected to have 500 students with a demand of 15 gallons per capita per day and 30 faculty with a demand of 20 gallons per capita per day. The total water use is projected to be 8,100 gallons per day for the school. Over an eight-hour day the average demand is projected to be 17 gpm, the maximum day demand 30 gpm, and the peak hour 59 gpm. The school demand will be equivalent to 56 homes.

The total average daily demand including the school will be 173,445 gpd or 132 gpm at build out. The maximum day demand will be 238 gpm and the peak hour demand will be 461 gpm. Fire flow plus peak hour demand will be 1,961 gpm.

The fire flow required for the school is 1500 gpm for 2 hours. This results in a total fire demand of 180,000 gallons.

### **1.4 Water Supply**

To meet build out maximum day demand a well capacity of 238 gpm is required. The existing well pump will need to be replaced with a larger capacity pump. There is no backup well so the storage tank will need to provide water to meet three days of demands.

### **1.5 Required Storage Volume**

Based on a diurnal demand curve as shown in Appendix B, and a well capacity of 238 gpm, 372,000 gallons of storage will be required for build out of the subdivisions and the school. The existing storage tank can provide 150,000 gallons so a minimum of 222,000 additional gallons is required for the school. The preliminary site plan showing the new tank is included as Figure 2.

### **1.6 Booster Pumps**

One of the existing Buckeye Ranch pumps can only provide 40 gpm to meet demands with the second acting as a backup. The build out average day demand will require 132 gpm,

*Winters Well Elementary School  
Offsite Water Design Report*

and peak hour demand will require 461 gpm. The school will require 1961 gpm during peak hour demand and a fire.

#### **Pipe Sizing**

The existing 6-inch diameter pipe has a capacity of up to 600 gpm. A second pipe will be required to convey the 1500 gpm fire demand and 59 gpm during peak hour demands to the school. The diameter required is 8-inches.

#### **Alternative to Upgrading the Tank site**

The other option is to install a storage tank and booster system at the school to provide the fire storage and demand. It would need to provide 292,000 gallons to meet the school peak day demands for three days and provide 180,000 gallons of fire storage. See the calculations in Appendix B. Booster pumps and an electrical service will also be required. The school would become a consecutive water system with monitoring and reporting requirements. The advantage would be that the existing 6-inch pipe can provide the water to fill the tank without installing a second pipe.

#### **Estimated Capital Costs and Alternative Evaluation**

The preliminary estimated cost for the parallel 8-inch diameter pipe, new well pumps, new storage tank, and new booster pumps, is \$1,360,000 dollars. Appendix C contains the spreadsheet with details on the costs and assumptions.

The alternative to install a larger tank and booster pumps at the school, but no parallel pipe, is estimated to cost \$1,460,000 dollars. The cost difference is within 10 percent. The advantage with installation of a new tank and booster station at Buckeye Ranch is the water company will operate and maintain it as part of their existing facility.

#### **Recommendations**

The following items are recommended for water service for the new school:

- Install a parallel 8-inch pipe from the tank site to the school to provide capacity for 1500 gpm fire flow and peak hour demands.
- Install a second tank to provide an additional 222,000 gallons of storage.
- Install new booster pumps to provide 132 gpm average day flow, 461 gpm peak hour flow, and 1961 gpm fire flow to the system and school.
- Replace the well pump with a larger one that can provide at least 238 gpm.
- It is likely that a new electrical service will be required to supply the additional power required for the booster pumps. The generator will also require to be upgraded to provide backup power for the new pumps.

# Appendix A

## Existing System Data

# **B&D / Buckeye Ranch**

PWS # 07-618

DWR # 55-

348<sup>th</sup> to 358<sup>th</sup> Van Buren to ½ mile South of Buckeye RD.  
**B&D / Buckeye Ranch operating capacities are as follows:**

Well pumping capacity: 15 horse power capable of 150 Gallons Per Minute from well one (POE 001) 7.5 Horse Power capable of 40 GPM from well two (POE 002)

Storage capacity is: 150,000 gallons from a single storage tank located at POE 001 and 5,000 gallons from a single storage tank located at POE 002.

Booster pump capacity is: 3 pumps at POE 001, 2 - 5 H.P. capable of 100 GPM each and 1 - 40 HP capable of 800 GPM. And 2 pumps at POE 002, 1- 3 H.P. capable of 40 GPM and one 5 H.P. capable of 75 GPM

Electrical power is provided by APS from one electrical grid. We have an on site emergency electrical generator and automatic transfer switch at POE 001, and the ability to connect a portable emergency generator in case of a power outage at POE 002.

**B&D / Buckeye Ranch usage characteristics are as follows:**

Peek Month, average daily usage (peek month divided by # of days in month) 11,800. Buckeye Ranch 19,500 B&D.

Average daily usage (total pumped for year divided by # of days in year) 9100 Gallons Buckeye Ranch 12,800 B&D.

A map of the system is attached showing the main lines and the valve locations.

**POE 002 is not capable of providing full service to the system. POE 001 is required to be repaired first in case of any component failures.**

## DEPARTMENT OF WATER RESOURCES

33 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004

#56-002290

## REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING

PRINT OR TYPE - FILE IN DUPLICATE

LATE FEE. \$10.00



L8

SB-03

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	<input checked="" type="checkbox"/>
NON-EXEMPT WELL - \$10.00	<input type="checkbox"/>

FOR OFFICE USE ONLY	
803811-L	
REGISTRATION NO. 53	
FILE NO.	B(1-5)7ab-B
FILED	6-19-86 AT 11-
(DATE)	(TIME)
INA	
AMA	Phy

1. Name of Registrant:

ROBERT J. SHACKELFORD DBA B&amp;D WATER CO.

P.O. Box 741 ARIZONA CITY ARIZ 85223

(Address)

(City)

(State)

(Zip)

2. File and/or Control Number under previous groundwater law:

B-1-5-7-ABB

35-

(File Number)

(Control Number)

3. a. The well is located within the NW 1/4 NW 1/4 NE 1/4, Section 7, of Township 1 N, Range 5 E, G & SRB & M, in the County of MARICOPA.

b. If in a subdivision: Name of subdivision N/A, Lot No. , Address .

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)

SMALL WATER CO FOR DOMESTIC USES 1/2 hp. Pump LESS THAN 35 G.P.M.

5. If for irrigation use, number of acres irrigated from well N/A.

6. Owner of land on which well is located. If same as Item 1, check this box ☒

(Address)

(City)

(State)

(Zip)

7. Well data (If data not available, write N/A)

a. Depth of Well 350' feet

b. Diameter of casing 12" inches

c. Depth of casing 350' feet

d. Type of casing STEEL

e. Maximum pump capacity NOT LISTED ON R.O.W. gallons per minute

f. Depth to water 80' TO 100' feet below land surface

g. Date well completed 2 6 59 Sept 1959

(Month)

(Day)

(Year)

8. The place(s) of use of water. If same as Item 3, check this box ☐

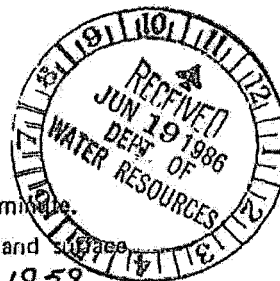
1/4 1/4 1/4, Section 7 Township 1N Range 5W

ENTERED JUN 2 0 1986

9. DATE 6-17-86

SIGNATURE OF REGISTRANT

Robert J. Shackelford



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
DRINKING WATER INORGANIC CHEMICAL ANALYSIS REPORT

\*\*\* SAMPLES TO BE TAKEN AT P.O.E. ONLY \*\*\*

>>>> PUBLIC WATER SYSTEM INFORMATION <<<<

>>>> TO BE FILLED OUT BY SYSTEM PERSONNEL <<<<

07-706

WUGT

System ID

System Name

02/24/2004 09:15 (24 hr clock)

Jack Meister

Sample date Sample time

Owner / Contact Person Name

623-386-6638

623-386-4252

Owner / Contact Fax Number

Owner / Contact Person Phone Number

SAMPLE TYPE

☒ Compliance Monitoring

SAMPLE COLLECTION POINT/ID

☒ Point of Entry# 001

Point of Entry 001 (Buckeye Ranch)

SAMPLE SITE ID

FOR MCL EXCEEDANCE OR COMPOSITE TRIGGER

Original Violating Specimen Number

SAMPLE TYPE

☐ CONFIRMATION

☐ CONFIRMATION FOR COMPOSITE TRIGGER

\*\*\* INORGANIC CHEMICAL ANALYSIS \*\*\*

To be filled out by laboratory personnel

Analysis Method	MCL Value	Trigger Value	Contaminant Name	Cont. Code	Test Start Date/Time	Analysis Run Date/Time	Results *	Exceeds MCL	Exceeds Trigger
	0.05		Arsenic	1005				<input type="checkbox"/>	
	2		Barium	1010				<input type="checkbox"/>	
	0.005		Cadmium	1015				<input type="checkbox"/>	
	0.1		Chromium	1020				<input type="checkbox"/>	
	4.0		Fluoride	1025				<input type="checkbox"/>	
	0.002		Mercury	1035				<input type="checkbox"/>	
CALC.	10	5	Nitrate (as N)	1040	02/25/2004 16:10	02/25/2004 16:10	2.0	<input type="checkbox"/>	<input type="checkbox"/>
SM4500NO2B	1	0.5	Nitrite (as N)	1041	02/25/2004 16:10	02/25/2004 16:10	<0.1	<input type="checkbox"/>	<input type="checkbox"/>
	0.05		Selenium	1045				<input type="checkbox"/>	
	0.006		Antimony	1074				<input type="checkbox"/>	
	0.004		Beryllium	1075				<input type="checkbox"/>	
	0.2		Cyanide (as free cyanide)	1024				<input type="checkbox"/>	
	0.1		Nickel	1036				<input type="checkbox"/>	
	0.002		Thallium	1085				<input type="checkbox"/>	
	No MCL		Sulfate	1055				<input type="checkbox"/>	
	No MCL		Sodium	1052				<input type="checkbox"/>	

040202027002I


SPECIMEN NUMBER

>>>> LABORATORY INFORMATION <<<<

To be filled out by laboratory personnel

ID Number AZ0004 Name: Legend Technical Services of Arizona

Comments:

Authorized Signature: 

Date Public Water System Notified:

\* All units must be reported in milligrams per liter.



**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
DRINKING WATER INORGANIC CHEMICAL ANALYSIS REPORT**

\*\*\*SAMPLES TO BE TAKEN AT P.O.E ONLY\*\*\*

>>>>PUBLIC WATER SYSTEM INFORMATION<<<<  
>>>> TO BE FILLED OUT BY SYSTEM PERSONNEL <<<<

[ 07-706 ]		BUCKEYE RANCH - ANNUAL	
System ID		System Name	
[ 08/26/03 ]	[ 8:45 ] (24 hr clock)	UNKNOWN	
Sample date	Sample time	Owner/Contact Person Name	
		623-386-4252	
Owner/Contact Fax Number		Owner/Contact Person Phone Number	
SAMPLE TYPE		FOR MCL EXCEEDANCE OR COMPOSITE TRIGGER	
<input checked="" type="checkbox"/> Compliance Monitoring		[ ]	
SAMPLE COLLECTION POINT/ID		Original Violating Specimen Number	
<input checked="" type="checkbox"/> Point of Entry# [ 001 ]		SAMPLE TYPE	
		<input type="checkbox"/> CONFIRMATION	
		<input type="checkbox"/> CONFIRMATION FOR COMPOSITE TRIGGER	
001			
SAMPLING SITE ID			

\*\*\*INORGANIC CHEMICAL ANALYSIS\*\*\*

>>> TO BE FILLED OUT BY THE LABORATORY PERSONNEL <<<

Analysis Method	MCL Value	Trigger Value	Contaminant Name	Cont. Code	Test Start Date/Time	Analysis Run Date/Time	Results*	Exceeds MCL	Exceeds Trigger
200.8	0.05		Arsenic	1005		09/02/03	0.013		
200.8	2		Barium	1010		09/02/03	0.049		
20.8	0.005		Cadmium	1015		09/02/03	<0.0005		
200.8	0.1		Chromium	1020		09/02/03	0.028		
SM4500F-C	4.0		Fluoride	1025		08/29/03	3.19		
245.2	0.002		Mercury	1035		09/03/03	<0.0002		
300.0	10	5	Nitrate (as N)	1040					
SM4500NO2B	1	0.5	Nitrite (as N)	1041	8/27/03 16:30	8/27/03 16:45	<0.01		
200.8	0.05		Selenium	1045		09/02/03	0.0039		
200.8	0.006		Antimony	1074		09/02/03	<0.0030		
200.8	0.004		Beryllium	1075		09/02/03	<0.0005		
335.4	0.2		Cyanide (as free cyanide)	1024		09/04/03	<0.005		
200.8	0.1		Nickel	1036		09/02/03	<0.010		
200.8	0.002		Thallium	1085		09/02/03	<0.0010		
300	NO MCL		Sulfate	1055					
200.7	NO MCL		Sodium	1052		09/08/03	74		

>>>>LABORATORY INFORMATION<<<<

To be filled out by laboratory personnel

SPECIMEN NUMBER

[ 082703-081 ]

ID Number [ AZ 0/0/09 ] Name: [ AQUA TECH ENVIRONMENTAL LABORATORIES, INC.

Comments: [ Nitrite analyzed by Precision Analytical, Tempe, AZ

[ All others analyzed by Aqua Tech Environmental Laboratories of Marion, OH

Authorized Signature: [

*R. Mosher*

Date Public Water System Notified: [

\*All units must be reported in milligrams per liter (mg/l)

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
DRINKING WATER VOLATILE ORGANICS CHEMICAL ANALYSIS REPORT

\*\*\*SAMPLES TO BE TAKEN AT P.O.E ONLY\*\*\*

&gt;&gt;&gt;&gt; PUBLIC WATER SYSTEM INFORMATION &lt;&lt;&lt;&lt;

&gt;&gt;&gt;&gt; TO BE FILLED OUT BY SYSTEM PERSONNEL &lt;&lt;&lt;&lt;

MAP

[ 7706 ] Buckeye Ranch Water System  
System ID System Name  
10/08/99 14:40 (24 hr clock)  
Sample Date Sample time Owner/Contact Person Name  
( ) (602) 224 0711  
Owner/Contact Fax Number Owner/Contact Person Phone Number  
SAMPLE TYPE  
☐ Compliance Monitoring

SAMPLE COLLECTION POINT/ID  
☐ Point of Entry# [001 ]

POE 001 PWS 07706  
SAMPLING SITE ID

FOR MCL EXCEEDANCE OR COMPOSITE TRIGGER  
[ ]  
Original Violating Specimen Number

SAMPLE TYPE  
☐ CONFIRMATION  
☐ CONFIRMATION FOR COMPOSITE TRIGGER

\*\*\* VOLATILE ORGANIC CHEMICAL ANALYSIS \*\*\*  
>>>> To be filled out by laboratory personnel <<<<

Method	MCL Value	MDL/Trigger Value	Contaminant Name	Cont. Code	Analysis Run Date	Results*	Exceeds MCL	Exceeds Trigger
2.2	0.007	0.0005	1,1-Dichloroethylene	2977	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.2	0.0005	1,1,1-Trichloroethane	2981	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.005	0.0005	1,1,2-Trichloroethane	2985	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.005	0.0005	1,2-Dichloroethane	2980	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.005	0.0005	1,2-Dichloropropane	2983	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.005	0.0005	Benzene	2990	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.005	0.0005	Carbon Tetrachloride	2982	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
2.2	0.07	0.0005	cis-1,2-Dichloroethylene	2380	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>

>>>> LABORATORY INFORMATION <<<<  
To be filled out by laboratory personnel

SPECIMEN NUMBER  
991012063V ]

ID Number [ AZ0/4/5/5 ] Name: [ Montgomery Watson Laboratories ]

Comments: [ 58763-991012063 ]

Authorized Signature: [ *Patricia Hedges 10/27/99* ]

Date Public Water System Notified: [ ]

All units must be reported in milligrams per liter (mg/l)

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
**DRINKING WATER VOLATILE ORGANICS CHEMICAL ANALYSIS REPORT**

\*\*\*SAMPLES TO BE TAKEN AT P.O.E ONLY\*\*\*

>>>> PUBLIC WATER SYSTEM INFORMATION <<<<

>>>>TO BE FILLED OUT BY SYSTEM PERSONNEL<<<<

# MAP

706 ] Buckeye Ranch Water System  
 System ID System Name  
 [ 10/08/99 14:40 ] (24 hr clock)  
 Sample Date Sample time

\*\*\* VOLATILE ORGANIC CHEMICAL ANALYSIS \*\*\*  
 To be filled out by laboratory

Method	MCL Value	MDL/Trigger Value	Contaminant Name	Cont. Code	Analysis Run Date	Results	Exceeds MCL	Exceeds Trigger
502.2	0.7	0.0005	Ethylbenzene	2992	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.1	0.0005	(mono)chlorobenzene	2989	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.6	0.0005	o-Dichlorobenzene	2968	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.075	0.0005	para-Dichlorobenzene	2969	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.1	0.0005	Styrene	2996	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.005	0.0005	Tetrachloroethylene	2987	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	1	0.0005	Toluene	2991	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.1	0.0005	trans-1,2-Dichloroethylene	2979	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.005	0.0005	Trichloroethylene	2984	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.002	0.0005	Vinyl Chloride	2976	10/20/99	<0.0003	<input type="checkbox"/>	<input type="checkbox"/>
502.2	10	0.0005	Xylenes, total	2955	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.07	0.0005	1,2,4-Trichlorobenzene	2378	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>
502.2	0.005	0.0005	Dichloromethane	2964	10/20/99	<0.0005	<input type="checkbox"/>	<input type="checkbox"/>

991012063V ]  
 ECIMEN NUMBER

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
DRINKING WATER UNREGULATED SYNTHETIC ORGANICS CHEMICAL ANALYSIS REPORT

\*\*\*SAMPLES TO BE TAKEN AT P.O.E ONLY\*\*\*

>>>> PUBLIC WATER SYSTEM INFORMATION <<<<  
>>>> TO BE FILLED OUT BY SYSTEM PERSONNEL <<<<

07706 ] Buckeye Ranch Water System  
System ID System Name  
07/09/99 14:30 ] (24 hr clock)  
Sample Date Sample time  
( )  
Owner/Contact Fax Number Owner/Contact Person Name  
SAMPLE TYPE (602) 224 0711  
☒ Compliance Monitoring Owner/Contact Person Phone Number  
POE 001 PWSID 07706  
SAMPLING SITE ID

## SAMPLE COLLECTION POINT/ID

☒ Point of Entry# [001 ]

## \*\*\*UNREGULATED SYNTHETIC ORGANIC CHEMICALS\*\*\*

To be filled out by laboratory personnel

Anal Method	MDL Value	Contaminant Name	Cont. Analysis Code	Analysis Run Date	Results*
531.1	.0005**	Aldicarb	2047	08/04/99	<0.0005
531.1	.0005**	Aldicarb Sulfoxide	2043	08/04/99	<0.0005
531.1	.0008**	Aldicarb Sulfone	2044	08/04/99	<0.0007
131.1	No MDL	3-Hydroxycarbofuran	2066	08/04/99	<0.002
8	No MDL	Aldrin	2356	07/21/99	<0.00001
45.2	No MDL	Propachlor	2077	07/29/99	<0.00005
525.2	No MDL	Butachlor	2076	07/29/99	<0.00005
31.1	No MDL	Carbaryl	2021	08/04/99	<0.002
515.1	No MDL	Dicamba	2440	07/21/99	<0.00008
08	No MDL	Dieldrin	2070	07/21/99	<0.00001
531.1	No MDL	Methomyl	2022	08/04/99	<0.001
25.2	No MDL	Metolachlor	2045	07/29/99	<0.00005
25.2	No MDL	Metribuzin	2595	07/29/99	<0.00005

>>>> LABORATORY INFORMATION <<<<  
To be filled out by laboratory personnel

## PECIMEN NUMBER

990713115US ]

D Number [AZ0/4/5/5] Name: [Montgomery Watson Laboratories]  
Comments: [55946-990713115]  
Authorized Signature: [Rinda Leade 8/6/99]  
Public Water System Notified: [ ]

\* All units must be reported in milligrams per liter (milligrams per liter (mg/l))\*\*MDL recommended but not required

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
 DRINKING WATER SYNTHETIC ORGANICS CHEMICAL ANALYSIS REPORT

\*\*\*SAMPLES TO BE TAKEN AT P.O.E ONLY\*\*\*  
 >>>> PUBLIC WATER SYSTEM INFORMATION <<<<  
 >>>> TO BE FILLED OUT BY SYSTEM PERSONNEL <<<<

[ 07706 ] Buckeye Ranch Water System  
 System ID System Name

[ 07/09/99 14:30 ] (24 hr clock)

Sample Date Sample time

\*\*\* SYNTHETIC ORGANIC CHEMICAL ANALYSIS \*\*\*  
 To be filled out by laboratory personnel

Anal Method	MCL Value	Trigger Value	Contaminant Name	Cont. Code	Analysis Run Date	Results	Exceeds MCL	Exceeds Trigger
509	0.0002	0.0001	Heptachlor Epoxide	2067	07/21/99	<0.00001	<input type="checkbox"/>	<input type="checkbox"/>
508	0.0002	0.0001	Lindane	2010	07/21/99	<0.00001	<input type="checkbox"/>	<input type="checkbox"/>
525.2	0.0002	0.0001	Benzo(a) Pyrene	2306	07/29/99	<0.00002	<input type="checkbox"/>	<input type="checkbox"/>
515.1	0.2	0.1	Dalapon	2031	07/21/99	<0.001	<input type="checkbox"/>	<input type="checkbox"/>
525.2	0.006	0.006	Di(2-ethylhexyl)phthalate	2039	07/29/99	<0.0006	<input type="checkbox"/>	<input type="checkbox"/>
525.2	0.4	0.2	Di(2-ethylhexyl)adipate	2035	07/29/99	<0.0006	<input type="checkbox"/>	<input type="checkbox"/>
515.1	0.007	0.0035	Dinoseb	2041	07/21/99	<0.0002	<input type="checkbox"/>	<input type="checkbox"/>
	3.0E-08	1.5E-08	2,3,7,8-TCDD (Dioxin)	2063			<input type="checkbox"/>	<input type="checkbox"/>
549.1	0.02	0.01	Diquat	2032	07/30/99	<0.0004	<input type="checkbox"/>	<input type="checkbox"/>
548.1	0.1	0.05	Endothall	2033	07/28/99	<0.02	<input type="checkbox"/>	<input type="checkbox"/>
508	0.002	0.001	Endrin	2005	07/21/99	<0.00001	<input type="checkbox"/>	<input type="checkbox"/>
	0.7	0.35	Glyphosate	2034			<input type="checkbox"/>	<input type="checkbox"/>
525.2	0.001	0.0005	Hexachlorobenzene	2274	07/29/99	<0.00005	<input type="checkbox"/>	<input type="checkbox"/>
525.2	0.05	0.025	Hexachlorocyclopentadiene	2042	07/29/99	<0.00005	<input type="checkbox"/>	<input type="checkbox"/>
531.1	0.2	0.1	Oxamyl	2036	08/04/99	<0.002	<input type="checkbox"/>	<input type="checkbox"/>
515.1	0.5	0.25	Picloram	2040	07/21/99	<0.0001	<input type="checkbox"/>	<input type="checkbox"/>
525.2	0.004	0.002	Simazine	2037	07/29/99	<0.00005	<input type="checkbox"/>	<input type="checkbox"/>
508	0.04	0.02	Methoxychlor	2015	07/21/99	<0.00005	<input type="checkbox"/>	<input type="checkbox"/>

SPECIMEN NUMBER

9907131158

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
**DRINKING WATER RADIOCHEMICAL ANALYSIS REPORT**  
 \*\*\* SAMPLES TO BE TAKEN IN THE DISTRIBUTION SYSTEM ONLY\*\*\*  
 >>>> PUBLIC WATER SYSTEM INFORMATION <<<<  
 >>>> TO BE FILLED OUT BY SYSTEM PERSONNEL <<<<

ORIGINAL SENT TO ADEQ

07-706

WUGT

System ID

System Name

12/26/2002 13:50 (24 hr clock)

Jack Meister

Sample date Sample time

Owner / Contact Person Name

623-386-6638

623-386-4252

Owner / Contact Fax Number

Owner / Contact Person Phone Number

SAMPLE COLLECTION POINT/ID

☒ Point of Entry # 001

SAMPLE COLLECTION POINT/ID

☐ Quarterly☐ Surface-DWR#☐ Reduced Monitoring/Grab Sample☐ Well - DWR#

COMPLIANCE SYSTEM TYPE

☐ Composite \* of four quarterly samples

Date Q1 collected

Date Q2 collected

Date Q3 collected

Date Q4 collected

\*\*\* RADIOCHEMICAL ANALYSIS \*\*\*

To be filled out by laboratory personnel

Analysis Method	MCL Value	MDL Value	Contaminant Name	Cont. Code	Analysis/Run Date	Analysis Results	Exceeds** MCL
EPA 600/00-0215 pCi/l		3 pCi/l	Gross Alpha **	4000	12/31/2002	5.3 +/- 1.0	<input type="checkbox"/>
	5 pCi/l		Combined Radium (226,228)	4010			<input type="checkbox"/>
EPA 903.0		1 pCi/l	Radium 226	4020	01/03/2003	<0.2	
		1 pCi/l	Radium 228	4030			
	4 mrem	3 pCi/l	Gross Beta	4100			<input type="checkbox"/>
	20,000 pCi/l **		Tritium	4102			
	8 pCi/l ***		Strontium-90	4174			

021210912004R

>>>>LABORATORY INFORMATION<<<<

To be filled out by laboratory personnel

SPECIMEN NUMBER

ID Number AZ0004

Name: Legend Technical Services of Arizona

Comments:

Authorized Signature: Stephanie Armar

Date Public Water System Notified

Radiochemistry performed by Radiation Safety, Chandler AZ, #AZ0462.

\* A composite radiochemical sample means four quarterly samples from a single source only.

\*\* Gross alpha is the value of all alpha particle emitters except for uranium and radon 222. Radium 226 is included in the reported gross alpha value. All units are reported in picocuries per liter (pCi/l) EXCEPT for gross beta which is reported in millirem per year.

\*\*\* These Values are assumed to produce a total body or organ dose of 4 millirem per year.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
DRINKING WATER COMPOSITE ASBESTOS ANALYSIS REPORT

\*\*\*SAMPLES TO BE TAKEN AT P.O.E. ONLY\*\*\*

>>>>PUBLIC WATER SYSTEM INFORMATION <<<<

>>>> TO BE FILLED OUT BY SYSTEM PERSONNEL <<<<

	PWS #	POE#	Sample Date/Time (24hr clock)		System Name
#1	07-071	001	8/26/03	14:30	SUNSHINE WATER SYSTEM - ANNU
#2	07-706	001	8/26/03	8:45	BUCKEYE RANCH - ANNUAL
#3					
#4					
#5					

#1 ROBERT LAKE - 623-386-4252

#4

Owner/Contact Person & Phone#/Fax Number

Owner/Contact Person & Phone#/Fax Number

#2 ROBERT LAKE - 623-386-4252

#5

Owner/Contact Person & Phone#/Fax Number

Owner/Contact Person & Phone#/Fax Number

#3

Owner/Contact Person & Phone#/Fax Number

COMPLIANCE SAMPLE TYPE

☒ ≤ 3,300 Population    ☐ > 3,300 Population

\*\*\* ASBESTOS ANALYSIS \*\*\*

To be filled out by laboratory

Analysis Method	MCL Value	Trigger Value	Contaminant Name	Cont. Code	Analysis Run Date	Results**	Exceeds Trigger
100.1	7 MFL	1.4 MFL	Asbestos	1094	8/29/03	<0.2	

>>>>LABORATORY INFORMATION<<<<

To be filled out by laboratory personnel

SPECIMEN NUMBER

[ 082703-03CASH ]

ID Number [ AZ0/0/0/9 ] Name: [ AQUA TECH ENVIRONMENTAL LABORATORIES, INC. ]

Comments: [ Sample analyzed by Fiberquant Analytical Services, Phoenix, AZ ]

Authorized Signature: [ *R. Moshu* ]

Date(s) Public Water System(s) were notified: [

#1

/#2

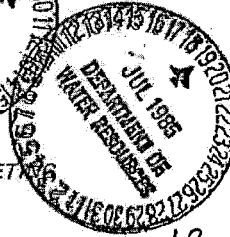
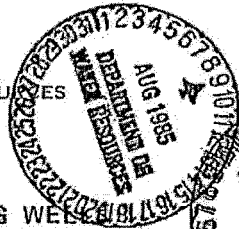
#3

/#4

/#5

\*\*All units must be reported in millions of fibers per liter (MFL)

DEPARTMENT OF WATER RESOURCES  
99 EAST VIRGINIA AVENUE  
PHOENIX, ARIZONA 85004



REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING

PRINT OR TYPE - FILE IN DUPLICATE

03

18

REGISTRATION FEE (CHECK ONE)  
EXEMPT WELL (NO CHARGE) ☐  
NON-EXEMPT WELL - \$10.00 ☒  
**LATE FEE \$10.00** ☒

FOR OFFICE USE ONLY  
REGISTRATION NO. 35- 801967-L  
FILE NO. B(1-6) 13  
FILED 7-19-85 AT am  
(DATE) (TIME)  
INA \_\_\_\_\_  
AMA Phoenix

1. Name of Registrant:

GERALD A. SCHNEIDER  
6510 SO. CENTER BLVD. TUKWILA WASHINGTON 98188  
(Address) (City) (State) (Zip)

2. File and/or Control Number under previous groundwater law:

\_\_\_\_\_  
(File Number) 35- \_\_\_\_\_  
(Control Number)

3. a. The well is located within the E  $\frac{1}{4}$  E  $\frac{1}{4}$  E  $\frac{1}{4}$  Section 13  
of Township 1 N N/S, Range 6 W E/W, G & SRB & M, in the  
County of MARICOPA.

b. If in a subdivision: Name of subdivision \_\_\_\_\_  
Lot No. \_\_\_\_\_, Address \_\_\_\_\_

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)

IRRIGATION ~~DOMESTIC~~

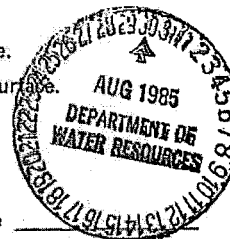
5. If for irrigation use, number of acres irrigated from well 80

6. Owner of land on which well is located. If same as Item 1, check this box ☒

\_\_\_\_\_  
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)

a. Depth of Well N/A 962 feet  
b. Diameter of casing N/A 16 inches  
c. Depth of casing N/A feet  
d. Type of casing N/A  
e. Maximum pump capacity N/A 750 gallons per minute.  
f. Depth to water N/A 65 feet below land surface.  
g. Date well completed N/A 1955  
(Month) (Day) (Year)



8. The place(s) of use of water. If same as Item 3, check this box ☒

1  $\frac{1}{4}$  1  $\frac{1}{4}$  1  $\frac{1}{4}$  Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
1  $\frac{1}{4}$  1  $\frac{1}{4}$  1  $\frac{1}{4}$  Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_

Attach additional sheet if necessary.

9. DATE 5-13-85 SIGNATURE OF REGISTRANT

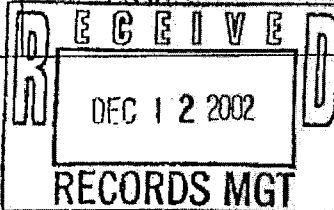
Gerald A. Schneider





Arizona Department of Water Resources  
Groundwater Management Support Section  
P.O. Box 458 + Phoenix, Arizona 85001-0458  
(602) 417-2470 + (800) 352-8488  
www.water.az.gov

## Request to Change Well Information



FILE NUMBER
WELL REGISTRATION NUMBER
55-802962

- ❖ Review instructions prior to completing form
- ❖ You must include with your Notice:
  - > check or money order for any required fee(s)
- ❖ Authority for fee: A.A.C. R12-15-151(B)(4)(a), A.R.S. § 45-113(B)

\*\* PLEASE PRINT CLEARLY \*\*

## SECTION 1: REGISTRY INFORMATION

<b>Well Owner</b>		<b>Location of Well</b>	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		WELL LOCATION ADDRESS (IF ANY)	
WATER UTILITY OF GREATER TONOPAH, INC		1214 S. 255 <sup>th</sup> Ave. Tonopah AZ	
MAILING ADDRESS		TOWNSHIP (N/S) RANGE (E/W) SECTION 160 ACRE 40 ACRE 10 ACRE	
3800 N. Central Ave #770		1.0N 6.0W 13 NE ¼ NE ¼ NE ¼	
CITY / STATE / ZIP CODE		LATITUDE LONGITUDE	
Phoenix AZ 85012		° ' " N ° ' " W	
CONTACT PERSON NAME AND TITLE		COUNTY ASSESSOR'S PARCEL ID NUMBER	
JOHN MIHLIK		BOOK MAP PARCEL	
TELEPHONE NUMBER FAX		506 41 285-9	
602-224-0711 602-224-5455		COUNTY WHERE WELL IS LOCATED	
		Maricopa	

## Type of Request (Check One)

- ☐ Change of Well Drilling Contractor (Fill out Section 2)
 ☒ Change of Well Ownership (Fill out Section 3)
 ☐ Change of Well Information (location, use, etc.) (Fill out Section 4)

## SECTION 2: REQUEST TO CHANGE WELL DRILLING CONTRACTOR (\$10 Fee Required)

\$10 FEE

- If drilling or abandoning a well, the Department must receive this request and issue authorization to the new drilling firm prior to the commencement of well drilling or abandonment.

<b>Current Well Drilling Contractor</b>		<b>New Well Drilling Contractor</b>	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL	
DWR LICENSE NUMBER		DWR LICENSE NUMBER ROC LICENSE CATEGORY	
TELEPHONE NUMBER FAX		TELEPHONE NUMBER FAX	

## SECTION 3: STATEMENT OF CHANGE OF WELL OWNERSHIP (\$10 Fee Required)

\$10 FEE

- If this change pertains to more than one well and the names are the same, only one \$10 fee is required.

<b>Previous Well Owner</b>		<b>New Well Owner</b>	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL		FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL	
Buckeye Ranch, Gerald Schneider		WATER UTILITY OF GREATER TONOPAH, INC	
MAILING ADDRESS		MAILING ADDRESS	
6510 S. Center Blvd. #1		3800 N. Central Ave #770	
CITY / STATE / ZIP CODE		CITY / STATE / ZIP CODE	
Tukwila, WA 98188		Phoenix AZ 85012	
CONTACT PERSON NAME AND TITLE		CONTACT PERSON NAME AND TITLE	
Gerald Schneider		JOHN MIHLIK	
TELEPHONE NUMBER FAX		TELEPHONE NUMBER FAX	
206-248-2471 206-242-4209		602-224-0711 602-224-5455	

## SECTION 4: CHANGE OF WELL INFORMATION (No Fee Required)

NO FEE

NOTE: Applies only to wells that have already been drilled. For proposed wells, an amended Notice of Intent to Drill a Well must be filed.

EXPLAIN

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE	SIGNATURE OF WELL OWNER	DATE
JOHN MIHLIK, President	<i>[Signature]</i>	12/9/02

## **Appendix B**

### **Demand and Storage Calculations**

[illegible]

Fluid Solutions

Peak Day Demand Storage Calculation

Winters Well Elementary School  
Peak Day Demand Hydrograph

Storage Calculations

WELL PRODUCTION (Gallons) =	342,720	238 gpm	Assumed
AVERAGE DAY (Gallons) =	189,645	132 gpm	
AVERAGE DAY PEAK MONTH (Gallons) =	284,468	1.5 x Average Day	
AVERAGE HOUR PEAK MONTH (Gallons) =	11,853		
PEAK DAY DEMAND (Gal/day) =	341,361	1.8 x Average Day	
AVERAGE HOURLY DEMAND (Peak Day) =	14,223		
FIREFLOW REQUIRED =	1,500 gpm for	2 hours	

Time	%	Thousand Gallons Per Hour		Cumulative	
	Percent of Avg	Peak Day Use	Contribution From Well	Affect To Storage	Storage in 1,000 gallons
8-9 AM	56	7.90	14.28	6.38	6.38
9-10 AM	122	17.38	14.28	-3.10	3.27
10-11 AM	150	21.34	14.28	-7.06	-3.78
11-12 Noor	122	17.38	14.28	-3.10	-6.89
12-1 PM	111	15.80	14.28	-1.52	-8.41
1-2 PM	106	15.01	14.28	-0.73	-9.14
2-3 PM	117	16.59	14.28	-2.31	-11.46
3-4 PM	122	17.38	14.28	-3.10	-14.56
4-5 PM	139	19.75	14.28	-5.47	-20.04
5-6 PM	167	23.71	14.28	-9.43	-29.46
6-7 PM	194	27.66	14.28	-13.38	-42.84
7-8 PM	183	26.08	14.28	-11.80	-54.63
8-9 PM	150	21.34	14.28	-7.06	-61.69
9-10 PM	117	16.59	14.28	-2.31	-64.00
10-11 PM	67	9.48	14.28	4.80	-59.20
11-12 Mid.	56	7.90	14.28	6.38	-52.83
12-1 AM	50	7.11	14.28	7.17	-45.66
1-2 AM	44	6.32	14.28	7.96	-37.70
2-3 AM	50	7.11	14.28	7.17	-30.53
3-4 AM	44	6.32	14.28	7.96	-22.57
4-5 AM	56	7.90	14.28	6.38	-16.20
5-6 AM	56	7.90	14.28	6.38	-9.82
6-7 AM	61	8.69	14.28	5.59	-4.23
7-8 AM	61	8.69	14.28	5.59	1.36
TOTAL	2400.00	341.36	342.72		

Minimum Storage Requirements	64,003
Three Days of Storage	192007.88
Fireflow Requirements	180,000
<b>TOTAL STORAGE REQUIRED</b>	<b>372,008</b>
Existing Storage	150000
Required Storage	222,008

Tank Sizing

Ht	15.5	23.5
vol (cf)	29676.23	29676.23
Area (sf)	1914.595	1262.818
Diam (ft)	49.38598	40.10842
for 200,000		
Diam (ft)	46.87427	38.06856

# Peak Day Demand Storage Calculation

Winters Well Elementary School  
Peak Day Demand Hydrograph

## Storage Calculations

FEED from Pipeline (Gallons) =	864,000	600 gpm	Assumed
AVERAGE DAY (Gallons) =	189,645	132 gpm	
AVERAGE DAY PEAK MONTH (Gallons) =	284,468	1.5 x Average Day	
AVERAGE HOUR PEAK MONTH (Gallons) =	11,853		
PEAK DAY DEMAND (Gal/day) =	341,361	1.8 x Average Day	
AVERAGE HOURLY DEMAND (Peak Day) =	14,223		
FIREFLOW REQUIRED =	1,500 gpm for	2 hours	

Time	%	Thousand Gallons Per Hour			Cumulative Storage in 1,000 gallons
		Percent of Avg	Contribution From	Affect To	
Hour	Hour	Peak Day Use	Well	Storage	
8-9 AM	56	7.90	36.00	28.10	28.10
9-10 AM	122	17.38	36.00	18.62	46.71
10-11 AM	150	21.34	36.00	14.66	61.38
11-12 Noon	122	17.38	36.00	18.62	79.99
12-1 PM	111	15.80	36.00	20.20	100.19
1-2 PM	106	15.01	36.00	20.99	121.18
2-3 PM	117	16.59	36.00	19.41	140.58
3-4 PM	122	17.38	36.00	18.62	159.20
4-5 PM	139	19.75	36.00	16.25	175.44
5-6 PM	167	23.71	36.00	12.29	187.74
6-7 PM	194	27.66	36.00	8.34	196.08
7-8 PM	183	26.08	36.00	9.92	206.01
8-9 PM	150	21.34	36.00	14.66	220.67
9-10 PM	117	16.59	36.00	19.41	240.08
10-11 PM	67	9.48	36.00	26.52	266.60
11-12 Mid.	56	7.90	36.00	28.10	294.69
12-1 AM	50	7.11	36.00	28.89	323.58
1-2 AM	44	6.32	36.00	29.68	353.26
2-3 AM	50	7.11	36.00	28.89	382.15
3-4 AM	44	6.32	36.00	29.68	411.83
4-5 AM	56	7.90	36.00	28.10	439.93
5-6 AM	56	7.90	36.00	28.10	468.02
6-7 AM	61	8.69	36.00	27.31	495.33
7-8 AM	61	8.69	36.00	27.31	522.64
TOTAL	2400.00	341.36	864.00		

Minimum Storage Requirements	28,098
Three Days of Storage	84,294
Fireflow Requirements	180,000
TOTAL STORAGE REQUIRED	292,393

## Tank Sizing

Ht	15.5	23.5
vol (cf)	39084.68	39084.68
Area (sf)	2521.592	1663.178
Diam (ft)	56.67645	46.02932
for 200,000		
Diam (ft)	46.87427	38.06856

## **Appendix C**

### **Detailed Cost Estimate**

Winters Well Elementary School  
Preliminary Cost Estimate  
KM

28-Feb-06

## New Tank at School

Description	Units	Quantity	Material Unit Cost	Labor Unit Cost	Total Material Cost	Total Labor Cost	Total Cost
<b>Pipe:</b>							
6" DIP, Class 350	lf	500	\$11.00	\$15	\$5,500	\$7,500	\$13,000
8" - 6" Pipe Wrap	lf	500	\$0.30	\$2	\$150	\$1,000	\$1,150
<b>Fittings:</b>							
6" DIP, Class 350, Tee's	ea	2	\$135	\$200	\$270	\$400	\$670
6", Class 350, 90deg bends	ea	6	\$125	\$150	\$750	\$900	\$1,650
6", Class 350, 45deg bends	ea	2	\$88	\$150	\$176	\$300	\$476
8 in MJ accessories pack	ea	1	\$18	\$15	\$18	\$15	\$33
<b>Valves:</b>							
6" Gate Valve	ea	6	\$650	\$150	\$3,900	\$900	\$4,800
Air Release Valves (Dist Syst)	ea	1	\$475	\$250	\$475	\$250	\$725
<b>Accessories:</b>							
Type C Valve Box with drop-in lid	ea	2	\$55	\$30	\$110	\$60	\$170
#4 Concrete Water Meter Vault with Steel lid	ea	1	\$110	\$80	\$110	\$80	\$190
Pipeline Bedding	cy	140	\$25		\$3,500		\$3,500
<b>Storage Tank and Booster Pumps:</b>							
1 - 300,000 gallon tank	ea	1	\$185,000	\$150,000	\$185,000	\$150,000	\$335,000
5000 gallon Hydro Tank	ea	1	\$30,000	\$5,000	\$30,000	\$5,000	\$35,000
Pumps, Meter, concrete, booster station piping and control valves, grading, fencing, landscaping	jb	1	\$300,000		\$300,000	\$0	\$300,000
Generator	ea	1	\$110,000		\$110,000	\$0	\$110,000

1. All piping priced as below ground tyton joint

2. 2006 prices

3. Does not include land costs

4. Does not include cost to bring electrical service to site

Subtotal \$806,364

Engineering (10%) \$80,636

Mobilization (15%) \$120,955

Electrical (15%) \$120,955

Subtotal \$1,128,910

Taxes, Bonds, Insurance (15%) \$169,336

Contingencies (10%) \$169,336

Total \$1,467,582

(Rounded) \$1,468,000

Winters Well Elementary School  
Preliminary Cost Estimate  
KM

28-Feb-06

## New Tank and Buckeye Ranch Tank Site

Description	Units	Quantity	Material Unit Cost	Labor Unit Cost	Total Material Cost	Total Labor Cost	Total Cost
<b>Pipe:</b>							
12" DIP, Class 350	lf	100	\$26.00	\$15	\$2,600	\$1,500	\$4,100
10-12" pipe wrap	lf	40	\$0.35	\$2	\$14	\$80	\$94
8" DIP, Class 350	lf	2,000	\$15.00	\$15	\$30,000	\$30,000	\$60,000
8" - 6" Pipe Wrap	lf	2,000	\$0.30	\$2	\$600	\$4,000	\$4,600
<b>Fittings:</b>							
12" DIP, Class 350, Cross	ea	3	\$355	\$250	\$1,065	\$750	\$1,815
12" DIP, Class 350, Tee's	ea	8	\$280	\$200	\$2,240	\$1,600	\$3,840
12", Class 350, 90deg bends	ea	6	\$202	\$150	\$1,212	\$900	\$2,112
8" x 12" DIP, Class 350, Concentric Reducer	ea	2	\$115	\$150	\$230	\$300	\$530
8" DIP, Class 350, Tee's	ea	4	\$140	\$200	\$560	\$800	\$1,360
8", Class 350, 90deg bends	ea	2	\$101	\$150	\$202	\$300	\$502
8", Class 350, 45deg bends	ea	1	\$88	\$150	\$88	\$150	\$238
12 in MJ accessories pack	ea	2	\$42	\$15	\$84	\$30	\$114
8 in MJ accessories pack	ea	10	\$18	\$15	\$180	\$150	\$330
<b>Valves:</b>							
8" Gate Valve	ea	12	\$650	\$150	\$7,600	\$1,800	\$9,600
12" Gate Valve	ea	8	\$945	\$150	\$7,560	\$1,200	\$8,760
Air Release Valves (Dist Syst)	ea	2	\$475	\$250	\$950	\$500	\$1,450
<b>Accessories:</b>							
Type C Valve Box with drop-in lid	ea	14	\$55	\$30	\$770	\$420	\$1,190
#4 Concrete Water Meter Vault with Steel lid	ea	2	\$110	\$80	\$220	\$160	\$380
Pipeline Bedding	cy	444	\$25		\$11,100		\$11,100
<b>Storage Tank and Booster Pumps:</b>							
1 - 220,000 gallon tank	ea	1	\$140,000	\$150,000	\$140,000	\$150,000	\$290,000
5000 gallon Hydro Tank	ea	1	\$30,000	\$5,000	\$30,000	\$5,000	\$35,000
Pumps, Meter, concrete, booster station piping and control valves, grading	jb	1	\$200,000		\$200,000	\$0	\$200,000
Generator	ea	1	\$110,000		\$110,000	\$0	\$110,000

1. All piping priced as below ground tyton joint

Subtotal \$747,115

2. 2005 prices

3. Does not include land costs

Engineering (10%) \$74,712

4. Does not include cost to bring electrical service to site

Mobilization (15%) \$112,067

Electrical (15%) \$112,067

Subtotal \$1,045,961

Taxes, Bonds, Insurance (15%) \$156,894

Contingencies (10%) \$156,894

Total \$1,359,749

(Rounded) \$1,360,000



